Big Tobacco, Cigarettes, and the Foundation of Duke University

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ABSTRACT

Duke University was founded in 1930 primarily due to funds generated from James B. Duke's tobacco business. Duke achieved great financial wealth primarily due to the early application of machine rolled cigarettes, as opposed to hand rolled. This early adoption of technology allowed Duke Tobacco to out-produce other companies still selling hand rolled cigarettes. By making smoking more inexpensive and easier than pipe smoking, the cigarette formed the foundation for nicotine addiction in the 1900s, generating huge profits for the tobacco industry. At the time Duke University was founded, little was known about the connection between nicotine, cigarettes, and respiratory diseases such as emphysema and lung cancer. Through James Duke's philanthropy, the devastating harm from cigarettes has been mitigated in part through the founding of one of the world's most prominent medical centers and research universities.

KEYWORDS: tobacco, cigarettes, nicotine addiction, Duke University, James B. Duke, modern medicine

Duke University, located in Durham, North Carolina was named after Washington Duke, a tobacco farmer in the late 1800's. His son, James Buchanan Duke, provided the majority of the funds for the foundation of the medical school.

The school was founded in 1930, and has since become one of the top medical schools in the world, ranking 15th globally in 2022 [1]. The medical centre itself, which also opened in 1930, is now also recognized as one of the world's best. According to Newsweek, in 2022 Duke University Hospital was the 40th best hospital globally in 2022 [2]. With such a rapid ascent to excellence in both medical education and medical care, the origin and foundation of the Duke University Medical School takes on historical importance in American medicine.

The success of Washington Duke in tobacco farming was partly due to historical accident [3]. Washington Duke converted his assets into tobacco holdings just prior to his enlistment in the Confederate army. This proved to be a smart business move because of the events occurring around the end of the war. Towards the end of the conflict, Union General William T. Sherman and Confederate General Joseph E. Johnston met just west of Durham to discuss (prematurely as it turned out) terms for an end to hostilities. Durham was declared neutral ground.

During this time, the troops from both sides rifled the supplies of tobacco from Durham's tobacco factory and from surrounding farms. When the troops dispersed a few weeks later to return home, Durham tobacco was taken to all parts of the country. Soon, orders for more tobacco came from all over. The orders were simply addressed to the postmaster, railroad agent, and other town officials. The only tobacco factory in town at the time was owned by John R. Green, and he wisely took advantage of this demand and branded his product 'Durham Smoking Tobacco.' This became instantly popular.

Washington Duke became a prisoner of war during the Civil war. When he was released, he returned to Durham with fifty cents in his pocket. He found that most of his tobacco hoard had been ransacked by the armies of Sherman and Johnston. His total resources were said to have been fifty cents, two blind mules, and a small amount of tobacco stored in a shed on the

farm [4]. Nonetheless, he began processing and packing tobacco with the help of his three sons and one daughter. Their firm subsequently benefitted from court decisions which allowed any Durham resident to use the words “Durham Smoking Tobacco” on their products. This enabled, in part, Duke’s business to grow rapidly and eventually overtake the tobacco company started by Green.

Probably the most important factor in the growth of Washington Duke’s business was James B. ‘Buck’ Duke, the man who was instrumental in the founding of Duke University Medical School. He gave the majority of funds to the school. He was a master at sales and had keen business sense. Buck, more than anyone else, established the popularity of cigarettes in the United States.

For a tobacco firm to go into the cigarette business was risky in 1881, the year James B. Duke staked his business future on cigarettes. Around 400,000 cigarettes had been made in 1880, and of those, most came from New York. However, due to Duke changing from hand rolled cigarettes to machine rolled cigarettes, nicotine addiction, heavy advertising, and other factors, by 1889 Duke cigarettes were being produced at a rate of 940 million yearly, nearly half of the nation’s total output. James B. Duke built upon this success, and eventually expanded into hydroelectric power, textiles, and other businesses which further increased his net worth. This enabled the establishment of the Duke Endowment of $40 million dollars. Furthermore, his financial success enabled him to give an additional $10 million to Trinity University, with the stipulation that $4 million was to go towards the development of a medical school. This was a considerable sum at the time, equivalent to approximately $70 million in 2022 [5]. The funds were donated in 1924, just a year before James B. Duke’s death.

The forerunner of Duke University was Trinity College, a small Methodist institution that was the Duke family's primary philanthropy. Founded in Trinity, North Carolina, the college moved to Durham in 1892 [6]. A major force in the eventual development of a medical school as part of the college was William P. Few, who became the college's President in 1910. Through Few's efforts, around 1920 Abraham Flexner helped plan the school. Few solicited the necessary funds soon after becoming President of the college, and he eventually convinced James B. Duke to contribute. On December 1, 1924, Duke assembled his personal counsel, William R. Perkins, and his business associate Anthony J.D. Biddle Jr., George G. Allen, Norman A. Cocke, C.F. Burkholder, E.C. Marshal, and E.T. Cansler. Duke announced that morning that he had been planning for some years to create an educational and charitable foundation, and that the group would remain assembled until the job was completed.

The beneficiaries of the trust were institutions the Duke family had supported for decades, namely orphanages, hospitals, educational institutions, and the Methodist Church. Few's plans for the development of Trinity college was included almost to the letter. A single stipulation was that the college's name be changed to Duke University, after Washington Duke. An entirely new hospital was to be built, as well as new buildings for the school itself.

The person probably most instrumental in the early success of the project was the medical school's first Dean, Wilburt C. Davison. Davison was appointed Dean of the Duke University Medical School in 1927. He was a paediatrician and previously the Assistant Dean of the Johns Hopkins Medical School. The response to his appointment was overwhelmingly favourable with the North Carolina medical community.

Dean Davison personally inspected the building of the hospital and helped plan its design. He assembled a faculty mostly of doctors from Johns Hopkins. This heavy emphasis upon hiring

Hopkins faculty was met with strong criticism, enough so that Davison started making his appointments in private. However, the wisdom of his strategy soon became evident.

Davison's aim was to make Duke 'better than any other medical institution in the country.' A primary strategy behind this plan was rigid selectivity in hiring faculty and choosing medical students. For example, a total of 48 students were selected from an applicant pool of 3000 the first-year classes were held.

Duke University's role in the community was recognized early on. Davison insisted that "the word 'service' is to be carved into the cornerstone." Davison also strongly encouraged tradition early in the university's founding. Because of the strong influence of William Osler upon his own life, Davison named the women's medical ward for Osler, and even secretly brought back ivy from Osler's home and planted it near the entrance to the ward [7]. Although the initial batch died, one of Davison's students brought more back to Durham, and to this day this ivy still flourishes on the Duke campus.

One of Duke's most influential initial faculty members was Deryl Hart [8]. Hart was the first Chair of the Department of Surgery and the first faculty member to be selected for the medical school by Davison. Although not a personal acquaintance of Osler, like Davison was, he was trained at Johns Hopkins Medical School by William Steward Halsted, one of the greatest surgeons in the world at the time. Hart served for more than 30 years as the Surgery Department Chair, and eventually became President of the university. He was only 35 years of age at the time of his appointment in 1930. His philosophy of life was simple enough: 'Set your goal high, if you think you can do it, and finish what you start.' One of his residents remarked that at first, he thought Dr. Hart was incredibly lucky. However, over time, the resident had to admit that there was more to it; Hart just couldn't be lucky all the time.

The third Hopkins doctor to join Duke University, after Davison and Hart, was Wiley Forbus, who served as the university's first Chair of Pathology [9]. Like Davison and Hart, Forbus was an innovator. For example, he prided himself on not giving examinations. Instead, he would have sessions with the students called 'roundups.' Four students would be called to the front of the class, and lead in what Forbus called a 'discussion' during which the four were encouraged to participate, by getting direct questions from Dr. Forbus. When the students were not performing well during the course, Dr. Forbus invited them into his office for a 'chat.' While this made students anxious, his concern was genuine. He would try to determine whether the problem was insufficient application, a poor return on time spent, a personal problem, or some other reason. Then he would make every effort to help the student overcome the problem. The roundups, discussions, and chats were the tools Forbus successfully used to educate students.

Davison's plans to make Duke one of the pre-eminent medical schools worked. In less than 5 years, Duke was considered in the top 25% of all American medical schools, and has continued to be a leader in the academic community in many areas, including curriculum innovation [10].

There has been some recent controversy over just why James B. Duke gave so generously. One hypothesis was that he acquired pernicious anaemia, which led to a severe depression. In struggling with depression, one author hypothesised that Duke donated the money as a form of redemption [11]. This hypothesis, however, has little substance since there was no evidence that Duke suffered from depression, and furthermore, he started making large philanthropic donations long before his death [12]. Whether Duke even had pernicious anaemia is questionable. Quoted in the rebuttal to the pernicious anaemia hypothesis is Dr. George R. Minot, who shared the 1934 Nobel Prize for the discovery of pernicious anaemia. Minot had a

chance to examine Duke's blood shortly before Duke died. Minot claimed that pernicious anaemia was not afflicting Duke.

James B. Duke made his fortune in part by leading one of the first companies in America to adopt machine production of cigarettes on a large scale [13]. Then to be responsible for founding one of the world's most elite medical schools seems to be quite the contradiction, given what we now know about the harms of cigarette smoking. It must be emphasised, however, that the negative health effects of tobacco were not known in the late 1800's. Now Duke University is a leading institution in research into the health effects of tobacco and treating the consequences of smoking. Nevertheless, ties to the tobacco industry exist to the current day [14].

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